

C. Remarks

Upon entry of the above-referenced amendments, claims 32, 33, and 38-71 are pending.

The Applicants have cancelled claims 1-31 and 34-37 without prejudice (i.e., the Applicants reserve their right to pursue these claims in a subsequently file continuation application).

Applicants have amended claim 32 to specify that identifying a second taxonomic identifier of the classification entry allows taxa to be organized according to more than one classification.

One can find support for this amendment, among other places, on page 15 between lines 3 and 4.

Applicants have added new claims 40-71. One can find support for new claim 40 in the specification on page 13, between lines 6-8, between page 18, line 18 and page 21, line 8 and in claim 25. Similarly, one can find support for claim 41 in the specification on page 13, between lines 6-8, between page 18, line 18 and page 21, line 8 and in claim 19. One can find support for claims 42-59 in original claims 5-18 and in original claims 20-23. One can find support for new claim 60, among other places, in the specification on page 18, between lines 13 and 15 and between lines 18 and 23 and in claim 32. One can find support for new claim 61, among other places, in the specification between page 24, line 7 and page 25, line 2 and in claim 38. One can find support for new claims 62-66 in original claims 5-10. One can find support for new claims 67-70, among other places, in the specification on page 14, between lines 18 and 19, on page 17, between lines 5 and 10, on page 18, between lines 13 and 23, on page 34, between lines 14 and 22, and between page 36, line 1 and page 37, line 5. One can find support for new claim 71, among other places, in the specification between page 23, line 1 and page 28, line 4 and with reference to FIGS. 13-18.

**Rejection of claims 1-31 and 34-37 under 35 USC 103**

Claims 1-31 and 34-37 stand rejected under 35 USC 103(a) as unpatentable over Cotter, “The National Biological Information Infrastructure: Coming of Age,” Online Information Review, v24 n6, pp. 429-438, 2000 ISSN: 1468-4527 (hereinafter “Cotter”) in view of U.S. Patent Application Publication No. US 2001/0047353 (hereinafter Talib). Applicants submit that by canceling claims 1-32 and 34-37 without prejudice Applicants have removed this ground for rejection.

**Rejection of claims 32, 38, and 39 under 35 USC 103**

Claims 32, 38 and 39 stand rejected under 35 USC 103(a) as unpatentable over Cotter. Applicants request reconsideration and withdrawal of this rejection.

One aspect of the invention provides a method for managing taxonomic information. The method includes identifying a name that specifies an organism. Based on the name and a database of organism names or classifications, the method determines another name that specifies the organism and that represents a link between pieces of biological identification information in the database, or a classification for the organism. Based on the other name or classification, the method identifies information associated with the organism.

Implementations of the invention provide certain advantages. For example, students and knowledgeable researchers alike can explore a database of organism information in accordance with an organism classification scheme regardless of whether the database is organized in accordance with the scheme.

As defined by amended claim 32, the invention provides a method for use in managing taxonomic information. The method includes: identifying a first name that specifies an organism; determining that the name is sufficiently similar to a text string of a name entry in a

names table; identifying a first taxonomic identifier of the name entry; determining that the first taxonomic identifier is included in a classification entry in a classification table; identifying a second taxonomic identifier of the classification entry allowing taxa to be organized according to more than one classification; and based on the second taxonomic identifier, identifying a second name.

Contrary to the assertion on pages 9 and 10 of the July 1, 2004 Office Action that claim 32 is unpatentable as obvious over Cotter, elements of amended claim 32 are neither taught nor suggested in Cotter. Indeed, pages 9 and 10 of the Office Action acknowledge that Cotter does not explicitly disclose: identifying a first taxonomic identifier of the name entry; determining that the first taxonomic identifier is included in a classification entry in a classification table; identifying a second taxonomic identifier of the classification entry; and based on the second taxonomic identifier, identifying a second name. Moreover, claim 32 is now amended to specify that identifying a second taxonomic identifier of the classification entry allows taxa to be organized according to more than one classification.

There is no motivation or suggestion in the cited document to make the modification to Cotter indicated in the July 1, 2004 Office Action to achieve the subject matter of amended claim 32. Obviousness cannot be established by modifying the teachings of the cited document to produce the claimed invention, absent some teaching suggestion or incentive supporting the modification. See *In re Geiger*, 815 F.2d 686, 2 USPQ 2d 1276, 1278 (Fed. Cir. 1987).

It is impermissible for the Examiner to use the claimed invention as a “template” to piece together the teachings of the prior art reference so as to render the claimed invention obvious. *In re Gorman*, 933 F.2d 982, 987 (Fed. Cir. 1991). Under no condition can the Examiner modify the teachings of references, unless those references include some teaching or suggestion

supporting the modification. In re Fritch, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (quoting ACS Hosp. Systems, Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577 (Fed. Cir. 1984))

The Examiner is not allowed to use hindsight to modify a prior art reference so as to reconstruct the claimed invention. In re Fritch, 972 F.2d at 1266. As the Federal Circuit has observed on more than one occasion, “[t]o imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.” In re Fine, 837 F.2d 1071, 1075 (Fed. Cir. 1988) (quoting W.L. Gore & Assoc. v. Garlock, Inc., 721 F.2d 1540, 1553 (Fed. Cir. 1983)). See also Pentec, Inc. v. Graphic Controls Corp., 776 F.2d 309, 313, 227 USPQ 2d. 1923, (Fed. Cir. 1985) Additionally, it is improper to focus on obviousness of substitutions, instead of on an invention as a whole. Gillette Co. v. S.C. Johnson & Son, Inc. 16 USPQ 2d. 1923 (Fed. Cir. 1990)

It is the invention as a whole which must be evaluated. “[T]he changes must be evaluated in terms of the whole invention, including whether the prior art provides any teaching or suggestion to one of ordinary skill in the art to make the changes that would produce the patentee’s method and device.” Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 15 USPQ 2d. 1321 (Fed. Cir. 1990).

In support of its obviousness rejection of claim 32, the Office Action merely states the following:

[T]he system of Cotter determines the synonyms of the organism (Cotter, page 2-4), which obviously includes the steps of disclose [sic] identifying a first taxonomic identifier of the name entry; determining that the first taxonomic identifier is included in a classification entry in a classification table; identifying a second taxonomic identifier of the classification entry; and based on the second taxonomic identifier, identifying a second name.

Merely stating that Cotter determines a synonym for an organism name does not provide a motivation to modify the subject matter of Cotter to achieve the subject matter claimed in amended claim 32, e.g., identifying a first taxonomic identifier of the name entry; determining that the first taxonomic identifier is included in a classification entry in a classification table; and identifying a second taxonomic identifier of the classification entry allowing taxa to be organized according to more than one classification.

Indeed, what appear to be the most relevant pages of Cotter, i.e., pages 432-434, specifically teach away from using more than one classification (the Office Action cites pages 2-4 of Cotter – Applicants assume that the Office Action is referring to pages 432-434 of Cotter).

Pages 432-434 of Cotter state in relevant part:

[T]he Integrated Taxonomic Information System (ITIS) – the first comprehensive, standardized reference for the scientific names of the flora and fauna of North America and surrounding oceans....

The importance of ITIS to the [National Biological Information Infrastructure] NBII is fundamental. Taxonomy provides the foundation for understanding and integrating the similarities and differences among the world's organisms, both living and extinct. In short, the scientific names of organisms are the framework that connects biological information. By providing a common vocabulary of species names, ITIS helps link all the biological data in the NBII...

The six federal agencies that worked together to develop ITIS include ... Each partnering agency has a mission to inventory, monitor, research or manage biological resources. This reality created a need for this common taxonomic vocabulary. Prior to ITIS there was no standardized authority for the naming of North American species.

Now, ITIS federal partners are working to ensure the high scientific quality of the ITIS database by reviewing and updating existing data, and by adding new data. ITIS is dependent upon a system of data stewards, people with particular taxonomic expertise who are responsible for ensuring the scientific quality of ITIS data for one or more particular taxonomic groups. [Emphasis added.]

Thus, ITIS provides a single, common, standardized authority for the naming of North American species, teaching away from “identifying a second taxonomic identifier of a classification entry allowing taxa to be organized according to more than one classification” as recited in amended claim 32. The ability to allow taxa to be organized according to more than one classification is important because, as noted in the present application on page 18, between lines 10 and 17, organisms may be reclassified when new information (e.g., about their origin) comes to light.

Genomics, for example, is finding new ways to identify the ancestry of organisms using genetic homologies, which has led to the reclassification of many organisms, and some reclassifications are in contention. The present claimed invention can take these competing classifications into account. In contrast, ITIS must choose between competing classifications resulting in a system that is not as effective, and potentially ineffective, for an adherent of the non-chosen classification system.

Claims 38 and 39 include similar limitations to claim 32. For example, claim 38 recites the following: “another determiner configured to determine that the first taxonomic ID is included in a classification entry in a classification table; [and] a second identifier configured to identify a second taxonomic ID of the classification entry.” Similarly, claim 39 recites the following: “determine that the first taxonomic ID is included in a classification entry in a classification table; [and] identify a second taxonomic ID of the classification entry.” In addition, claim 34 is dependent on claim 33. Thus, claims 34, 38 and 39 are patentably distinct from Cotter at least for the reasons provided above.

**New claims 40-71**

As defined by new independent claim 40, the invention provides a system for use in managing taxonomic information. The system includes: a taxon table in which each entry has, among other things, a taxon identifier; a name table in which each entry associates a name with a taxon identifier; **a database of classifications that accommodates alternative classifications, the database including: a reference table in which each entry associates a classification identifier with a taxon that represents the root of the classification; and a classification table in which each entry associates a taxon identifier with a classification identifier, a relationship attribute, and a second taxon identifier.**

The system further includes: a name identifier configured to identify a name that specifies an organism; a determiner configured to use the name and a database of classifications to help determine a classification for the organism; and an identifier configured to use the classification to help identify information associated with the organism.

Claim 40 recites a database of classification that accommodates alternative classifications. Claim 41 includes recitations similar to claim 40. Furthermore, claims 42-59 depend from claim 41 and claims 62-66 depend from claim 40. Thus, claims 40-59, and 62-66 are patentably distinct from Cotter at least for the reasons provided above with respect to claim 32.

New claim 60 recites similar limitations to the claim 32 limitations described above. More specifically, claim 60 recites the following: “determining that the first taxon is included in a classification entry in a classification database, the classification database allowing taxa to be organized according to more than one classification.”

In addition, new claim 61 recites limitations similar to claim 32. More specifically, claim 61 recites the following: “another determiner configured to determine that the first taxonomic ID is included in a classification entry in a classification table; [and] a second identifier configured to identify a second taxonomic ID of the classification entry.” Thus, claims 60 and 61 are patentably distinct from Cotter at least for the reasons provided above with respect to claim 32.

As defined by new claim 67, the invention provides a method for use in managing taxonomic information. The method includes: identifying a first name that specifies an organism; associating the first name with a name identifier; and associating a second name with the first name identifier based on objectively derived criteria. More specifically, claim 67 recites: “associating a second name with a first name identifier based on objectively derived criteria.” In contrast, Cotter appears to associate one name with another name based on a selected and therefore subjective taxonomy. Thus, Applicants submit that claim 67 is patentably distinct from Cotter. Claims 68-70 depend from claim 67. Thus, claims 68-70 are patentably distinct from Cotter at least for the reasons cited above with respect to claim 67.

As defined by new claim 71, the invention provides a distributed system for use in locating information resources related to biological organisms. The system includes: a set of client software for communicating with information management applications serving unique name identifiers associated with unique information identifiers; a first determiner to determine that a first unique name identifier is included within one or more classification entries in a classification table on a remote name server; a second determiner to determine a second unique name identifier is associated with the first unique name identifier within a names table on a remote name server; and a set of service software for distributing unique name identifiers

associated with unique associated information identifiers as a proxy for one or more information management applications. Claim 71 includes recitations similar to claims 32 and 38. More specifically, claim 71 recites: a first determiner to determine that a first unique name identifier is included within one or more classification entries in a classification table on a remote name server." Thus, claim 71 is patentably distinct from Cotter for at least the reasons provided above with respect to claim 32.

### Conclusion

In view of the foregoing amendments and remarks, the claims of the present application are in condition for allowance. Reconsideration of the objections and favorable action are respectfully requested. If the examiner has any questions regarding this amendment or the application in general, he is invited to telephone Applicant's attorney at the number below so that prosecution of this application may be expedited.

Respectfully submitted,



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